Richmond Power & Light

1. From a customer's perspective, how are power quality problems usually described/identified, i.e. what does the customer complain about?

Appliance or lighting is malfunctioning or operating differently. They completely stop / go out or is it intermittent / dim.

2. Are the complaints and/or problems different for residential or small commercial customers versus large commercial or industrial customers? If so, please explain how the complaints are different.

Residential customers largest complaint is about lighting. Next comes appliance failure after an outage. Large commercial / industrial customers largest complaint is drive malfunction and generally during capacitor operation. The next most common complaint from large commercial / industrial customers would be office equipment (computers, fax, copiers).

3. What steps does your utility take to address power quality complaints?

After the complaint is received a technician is assigned to investigate and follow the problem to the end. The technician does a phone interview with the complainant. The technician does an onsite investigation and generally sets some type of monitoring device(s). If the problem is found on the utility side an engineer is assigned to address the problem. If the problem is on the customer side the technician will help out inside. We can generally provide information to manufacturer / supplier or solve the problem directly. Customer receives a letter outlining the problem and solution.

4. Does your customer call center categorize power quality complaints separately? If so, how many power quality complaints have there been in the last 12 months? How were these complaints resolved? If not, please estimate how many power quality complaints there has been over the last 12 months and how they were resolved.

As a small municipality all power quality calls are funneled to the Meter or Engineering Dept. We spent 400 hours technician time on power quality. We responded to 53 power quality concerns and found solutions to all.

5. Are there actions customers can take to insulate their equipment from power quality problems? If so, please explain what actions could be taken.

All classes of customers should use accepted wiring practices.
Preventative maintenance - tighten connections periodically, use sound engineering practices when installing new equipment, use of PQ audits to ensure installations before and after, also for proper applications of mitigation equipment. Use of other outside services for preventative maintenance (infrared, vibration, ultrasound, etc.).
Predictive maintenance - base line studies, keep good notes on equipment ,and studies performed.